

Breast Cancer and its Connection to Depression

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Breast cancer is the most common cancer that affects American women, besides skin cancers. There is a 1 in 8 chance than an average woman will develop breast cancer in her lifetime. As of 2018, the American Cancer Society estimates that 266,120 new cases will be diagnosed in women and of those, 40,920 will die from it (“Breast Cancer,” 2018). When a woman is diagnosed with breast cancer, the body goes through numerous changes. Because the disease usually requires such aggressive treatment, it can be mentally challenging for a woman to go through. Many times depression or depressive symptoms may begin to present. This can often change how the body reacts to treatment or even require its own treatment in addition to the cancer treatment. It is important to note that many times doctors are not concerned with looking for these symptoms or even treating this additional disease that may accompany the cancer. They are simply trained in the identification and treatment of breast cancer from a strictly biological standpoint. However, this paper will serve to investigate the biological implications of breast cancer, how depression plays into this disease and why it is important that doctors are able to acknowledge it in the treatment.

It is important to understand how breast cancer is caused before looking into how women seek treatment. Breast cancer is caused by breast cells rapidly divide abnormally. Because it happens so rapid, a lump forms under the surface of the skin. The cancer cells may metastasize which means to spread throughout the body. One risk factor for getting breast cancer is having a gene mutation in the DNA. This means that inherited mutated genes increase the likelihood that a woman will get breast cancer. There are two main genes that this can be identified in- BRCA1 and BRCA2. These not only increase a woman’s risk for breast cancer but are also linked to an increased risk of ovarian cancer. There are several other risk factors that have been identified in increasing the risk of getting breast cancer. One major one is being a female. Although males can

also get breast cancer it is much more prevalent in women. Some others include increasing age, radiation exposure, obesity, beginning a period before age 12, beginning menopause at an older age, giving birth for the first time after 30, postmenopausal hormone therapy, and drinking alcohol. There are also the risk factors of a personal history with having breast cancer or a family history which can also increase one's risk ("Breast cancer - Symptoms and causes- Mayo Clinic", n.d.).

There are several steps before officially being diagnosed with breast cancer. A breast exam could be done by a doctor or by the patient to detect initial signs of lumps or other abnormalities in both of the breasts and the lymph nodes in the armpit. A mammogram is the most common tool used to screen for breast cancer and this is an X-ray of the breast. If there is an abnormality detected on the mammogram, the doctor may follow up with a diagnostic mammogram which can evaluate the abnormality further. From there, an ultrasound may be used to determine if the lump is a solid mass or just a fluid filled cyst. However, the only definitive way to diagnose breast cancer is through a biopsy of the breast. This is when a specialized needle device is guided to extract a sample of breast cells from the abnormality in question. This sample is then sent to a lab in order to be analyzed. From this small sample, it can be determined if the mass is cancerous, the type of cells involved, and the aggressiveness of the cancer ("Breast cancer - Diagnosis and treatment - Mayo Clinic," n.d.). These are all things that play into the type of treatment that is given to the woman however, the diagnosis alone can actually be enough to cause psychological distress.

Depression is a very common but serious mood disorder. It can cause very serious symptoms that affect how one reacts to different situations, how one thinks about their situation, and how one handles daily activities. To be diagnosed with depression these symptoms must be

present for at least two weeks, but the symptoms can have serious effects as soon as they are presenting. The signs and symptoms include persistent sad, anxious, or “empty” mood, feelings of hopelessness or pessimism, irritability, feelings of guilt, worthlessness, or helplessness, loss of interest or pleasure in hobbies and activities, decreased energy or fatigue, feeling restless, having difficulty concentrating or making decisions, difficulty sleeping or following a regular eating schedule, or aches or pains without a clear physical cause (“NIMH » Depression,” n.d.). One person may experience some of the symptoms but not all and they may be different from what someone else experiences. This disorder can be very debilitating to those who suffer with it and can be treated with therapy or with anti-depressants. This disorder can have a severe impact on those undergoing treatment for breast cancer because it affects a woman’s ability to cope with the cancer diagnosis. It also affects daily life due to the symptoms affecting how one gets through each day with daily activities. Maintaining a positive attitude and healthy habits such as eating healthy foods and getting enough sleep, can all cause a more positive outcome for those going through breast cancer treatment.

A study done by Jones and colleagues wanted to look at distress and quality of life of women before and after they were diagnosed with breast cancer. This was done with the help of data from the Women’s Health Initiative (WHI) which was a clinical trial and observational study that started in 1993 and has data on the health of over 160,000 women that participated. This study was especially interesting because no other study has been able to collect data from women before and after breast cancer diagnosis to be able to compare it. This would give an interesting outlook on how much the development of breast cancer really does impact the mental state of an individual. This current study looked at the 10,348 women that were diagnosed with breast cancer from the WHI and limited it to those that were initially cancer free when the WHI

started, developed non-metastatic breast cancer, did not develop another type of cancer, and survived until 2012 which was when this study began. Out of the 10,348 women, 7,061 were eligible and 6,949 participated. The WHI provided questionnaires at the beginning of their study and part of that included a section on depressive symptoms and quality of life. This serves as the control for each woman because this was all done pre-cancer diagnosis. The depressive symptoms in this study were measured by the six-item short form of the Center for Epidemiological Studies Depression scale. This measure involved having the women rate each activity from a 0 to 3 scale. Zero would stand for rarely and three would stand for most or all of the time and those with higher numbers indicated more depressive symptoms. When comparing to the control for each woman, they found that depressive symptoms increased 20% at 0-6 months post diagnosis. In 6 months to a year after diagnosis the depressive symptoms were still elevated 12.9% compared to baseline (Jones et al., 2015). The process of being diagnosed with breast cancer is such a distressing time for many women and this study was critical in providing information on how much emotional change can occur in a woman in the time before diagnosis to after. Many times, it is very early on after diagnosis in which a woman, with the help of her doctors, must choose a treatment option. These are life changing decisions and should not be made under distress, however, that is not an option because there is a limited time to make a treatment decision. Many times, doctors do not understand the distress a woman is going through at the time of diagnosis and will put pressure on them to make a decision about the treatment because the faster they start treatment the better. This can be very harmful to a woman's mental state going into treatment as they may be wondering if they made the right decision. They may have to rely on the recommendations of doctors, who are not taking into consideration the mental state of their patients.

There are several different treatment options once a woman is diagnosed with breast cancer, however the aggressiveness of the cancer really determines which could be the best treatment option. A lumpectomy is a surgery that is done to just remove the tumor and a small area of healthy cells surrounding the tumor. This is also referred to as a breast conserving surgery and is usually recommended for women who have a smaller tumor. Removing the entire breast, or a mastectomy, is another treatment option which removes all of the breast tissue and some skin. If a woman only has the cancer in one breast she may opt to have both breasts removed because of the increased risk of developing the cancer in the other breast. Sometimes, the cancer will have spread to the lymph nodes in the armpit and may be removed during this surgery as well. There are several non-surgical options for a woman to choose from. Radiation therapy is a type of treatment that uses targeted radiation beams to kill the cancer cells. This may also be done following surgical treatments to ensure that any remaining cancer cells are killed. Radiation therapy can last from three days to six weeks depending on the cancer and if it is paired with other treatment options. Chemotherapy is often paired with radiation therapy and it is a treatment that uses a cocktail of drugs to kill any fast growing cells, not just cancer cells. It is often also paired with surgical treatment options to try to shrink the tumor before surgery or after surgery to also ensure that all cancer cells are killed or removed (“Breast cancer - Diagnosis and treatment - Mayo Clinic,” 2018). These different treatment options each come with their own psychological side effects that often times are not discussed as legitimate side effects.

For example, a study done by Kim and colleagues looked at the incidence of post-operative depression in patients that underwent a mastectomy compared to the incidence of post-operative depression in non-breast cancer patients. This study used data from the Korean Health Insurance Review and Assessment Service and selected 2,130 patients that underwent a

mastectomy due to a diagnosis of breast cancer. For every 1 breast cancer patient they were paired with 4 control participants based on their ages, sex, income, region, and pre-operative depression levels. Their post-operative depression was then measured from the year of mastectomy to 10 years post-op. What they found was that, the incidence of depression was higher in the mastectomy group compared to the control group but only generally up to 3 years after mastectomy. When looking at age as a factor they found that among younger adults, less than 39 years old, the incidence of depression was significantly higher in the year of the mastectomy and 8 years post mastectomy. When looking at middle-aged and older adults the incidence of depression was higher only up until 2 years after the mastectomy (Kim, Kim, Kim, Park, & Choi, 2017). This study only looked at depression incidences based on mastectomy. Arguably, a mastectomy could cause the highest incidence of depression or depressive symptoms out of all treatment options. This is because many women experience body image distress due to losing their breast. It is a common issue for women in general to experience body image issues but once a woman undergoes a mastectomy, these issues may be heightened. While the procedure was done in order to potentially save the woman's life, it may leave her feeling weak and insecure about having to have her breast removed. Once again this is not a side effect that a doctor may disclose with a patient because they would only be concerned with the cancer cells and trying to get rid of them. Many times they may not even think about this as a side effect because it is not their priority- their priority is getting rid of the cancer cells.

Chemotherapy is another treatment in which depression is seen. A study by Cvetkovic and Nenadovic looked at this by using the Beck Depression Inventory among patients receiving cytotoxic treatment due to breast cancer. The Beck Depression Inventory has 21 questions and must be ranked from 0 to 3. Higher scores on this indicate the presence of symptoms at a higher

intensity. What they found was that 76% of the patients with breast cancer present depressive symptoms. The majority of those with mild to moderate depression were between the ages of 61 and 78. Moderate to severe depression was seen more frequently in those between the ages 41 and 60. Severe depression was most common in women between the ages 30 and 40 (Cvetković & Nenadović, 2016). It is important to recognize that chemotherapy is one of the most common treatment options for patients. Because it is used to kill any rapidly dividing cells it is usually effective at stopping tumor growth or even shrinking tumors. However, it has so many side effects including the issue of hair loss, that can also lead to patients losing their feeling of self-efficacy and control over the disease. Like a mastectomy, chemotherapy can cause substantial body image issues due to the loss of hair that many women feel is a part of their identity. Yet again, doctors are not concerned with helping a patient through the psychological side effects that may come about from the different treatment options. Chemotherapy is one of the most common treatment options and can cause such awful body image issues related to the hair loss. Doctors may warn about the hair loss but they may not talk about the psychological toll that would take on a woman.

There are many lasting physical effects of breast cancer seen in survivors. The disease impacts the body during treatment but also seen through its lasting effects, it impacts it long after the person has beat it. These include cardiac morbidity, reproductive dysfunction, bone degeneration, and breast cosmesis. Cardiac morbidity can be seen in the forms of cardiomyopathy, congestive heart failure, tissue dysfunction, and arrhythmias. These can all be linked to chemotherapy and can affect a person's quality of life greatly. Radiation therapy is linked to coronary artery disease, valvular disease, chronic pericardial disease, arrhythmias, cardiomyopathy, or carotid artery stenosis. These heart issues are very common following

radiation therapy because the location of the heart is very close to where the targeted rays of radiation are targeted at the breast. Chemotherapy is also seen to cause a decrease in ovary function following treatment. This leads to infertility in many cases and can be very traumatic to younger women with the disease that may hope to have children in the future. Bone health is also a concern with women who have undergone treatment for breast cancer. Having lower bone mineral density puts women at a higher risk of developing osteoporosis or osteopenia. Breast cosmesis is based on the cosmetic appearance of the breasts following surgery. The rate of poor or fair cosmetic outcomes is 15-20%. This is based on the scar tissue formation and extent of breast tissue removed. Many times this can have a severe psychological impact on women because they feel they are losing part of their femininity (Agrawal, 2014). Once a woman is cured of breast cancer these side effects can linger for years and the quality of her life may be diminished even longer. Some of these are other diseases that will require more treatment which can be even more traumatizing for some women. However, these may not be seen as a concern because the cancer is gone. The cancer is the primary concern and any depression or other side effects do not appear to matter to many doctors.

Reich and colleagues did a literature review looking at depression and breast cancer's connection. When looking at the connection between depression as a prognostic factor in breast cancer mortality they noted some interesting things. They noted that depression could decrease motivation which would have a serious impact on compliance with treatments. If a patient isn't complying with treatment, their prognosis is automatically going to be worse. This has very serious implications and doctors should be taking notice of this. Next, they noted that if a patient had depression, they may delay seeking medical attention for a lump or abnormality in the breast. This could allow the disease to progress faster before seeking treatment and may get to a

point where treating it becomes too difficult. This in turn would also make the prognosis for treating the cancer worse. Next, they looked at breast cancer leading to depression. In the literature they found that there is a higher incidence of psychological disorders in the population of women with breast cancer and there is a higher population with depression than any other disorder. They also noted that women that under went a mastectomy were more likely to have depression than a lumpectomy. This is likely due to the sever body image issues that may arise from losing a part of a woman's body that may symbolize femininity. When looking at survivor's quality of life compared to a group without breast cancer, they found that the survivors had a higher prevalence of mild to moderate depression with a lower quality of life in all areas. This is an important fact because it shows that even those that the depression does not just disappear after the disease is cured and the quality of life is not just completely restored (Reich, Lesur, & Perdrizet-Chevallier, 2008). These women no longer have the disease and yet are still dealing with issues from it. They need to be able to address this with doctors because it is related to the disease and stems from the diagnosis in many cases.

So many women are suffering with this horrible disease that is taking such a toll on their bodies physically. It can be incredibly difficult to get through treatment when just looking at a physical standpoint. This is what many doctors only see. They will only look at the disease from the physical standpoint and are fixated on killing the cells that are making the physical body of the individual sick. What they don't look at is how taxing the disease is on the mind of the individual. This is such an issue because it can cause just as many issues as the diseased cells in the tumor. As mentioned earlier, depression can have such a profound impact on each patient. It is pivotal that doctors are able to look past the cells and be able to treat the whole person, including the mind. Without it, there is serious consequences for the outcomes of the patients

including worse outcomes for treatments. It is almost as if they are so far removed from the empathetic side of the care that they do not see the patient as a human being. They only see the patient as just that- a cancer patient. To them, it is the cancer that must be treated and nothing else is a priority. However, once the cancer is gone, the individual is still left with reminders of it and has to work through the depression that was caused by the disease that is no longer present. That is why it is important to also look at the aftermath of the disease from a survivor's standpoint.

“After the Cure: The Untold Stories of Breast Cancer Survivors” is a book that gave breast cancer survivors a chance to tell their stories and experiences of having breast cancer. The chapter titled “We Saved Your Life. Now Leave Us the Hell Alone” discusses how many of the women felt about the interactions with their doctors. One woman named Pat Garland recalled when she was first told that the lump in her breast was malignant, her legs gave out from under her and her doctor was surprised and just said “Oh, you’re having a terrible reaction”. This is a prime example of a doctor having an apathic reaction to a breast cancer patient. Naturally, she was going to be in shock and scared and yet he was surprised by this and made no effort to comfort her in this very scary time. She also felt that whenever she would complain of pain the doctors wouldn’t take her seriously or wouldn’t really care. One woman, Marsha Dixler, also felt this way and even noted that there were times that she would leave doctors appointment’s in tears feeling as if they were not listening to her. She said that her doctor didn’t see her as an “individual”, so she dyed her hair to get his attention. A common thread that all the women shared was the frustration of their doctors not disclosing to them all of the possible side effects. Then, when those side effects occurred, each of the women thought they were going crazy because they were dismissed so many times by each doctor. The only time they ever truly felt

comforted was when they were in a support group and other women jumped in and said they experienced the same thing. This is something so simple for the doctors to do and yet they are not doing it. They are not validating that these women are in fact experiencing normal changes due to the cancer or the treatment.

The women in this book criticized the level of humanity the doctors had towards them during the whole process. They argued that the doctors honored the humanity of the patients' cancer over their own during each visit. They talked about how after they were cured the doctors were only interested in any signs of the cancer recurring. They didn't care about how diminished the quality of life was because they were alive and without cancer and that's all that appeared to matter. It was noted that this was specifically because the doctors "narrowed her gaze to biological phenomena that might indicate the cancer had returned, the doctor refused to acknowledge the entire scope of this woman's life"(Abel & Subramanian, 2008). These doctors are not seeing these women as humans and are not looking to treat them with whatever they are going through; they are specifically only looking to treat the cancer and once it is gone, any remaining side effects are not relevant to them. This is distressing because so many women are suffering through this everyday. They should be able to confide in their doctors and be able to get solid answers about what is going on and be able to be treated wholly. So many women experience anxiety and depression as a result of breast cancer and if these doctors are not acknowledging that side of the disease, they could be exacerbating the issue. This book is just recounting a few women's perspectives but they all shared similar experiences and frustrations with doctors. This is something that should be addressed.

It could be argued that the doctor's responsibility is only to treat the cancer and that other people are responsible for the mental health issues. However, depression is a part of breast

cancer as seen through countless studies and the doctors should be able to address this part of the disease. There are social workers and countless support groups for women going through this, however, the doctors are usually the first line of communication with the patient and should be trained to be able to handle any concerns about depression or anxiety. This first line of communication is incredibly important especially at the time of diagnosis as seen in the story with Pat Garland. When she was first told she had cancer, her doctor was almost shocked that she was reacting so visibly. They should be able to be supportive and actually listen to the person behind the cancer. They shouldn't be just seen as the treaters of the cells that are making the body sick because part of the body is the mind and the mental state of the patient will affect how the treatment commences. The social workers and support groups are incredibly important for the second line of communication and to give the individual a place to share the emotional side of things, but it should not be exclusive to them. Of course, this is not to say that all doctors are not able to see past the disease, but it seems to apply to the overwhelming majority.

Breast cancer is an overwhelmingly debilitating disease that calls for an extensive treatment and recovery period. This disease does not just affect a woman's physical health, but it also takes a large toll on her mental health. This is seen in several studies that have been mentioned previously in which when a woman is diagnosed with breast cancer, she may also develop depression. This is a serious mental illness and can have catastrophic implications for the treatment of the cancer. It may lead to worse prognosis and it can also cause a diminished quality of life in survivors. It is important for doctors to be able to recognize warning signs and symptoms of depression in breast cancer patients because of its strong connections. It is also pivotal that doctors are able to better treat the whole person when treating breast cancer because there will be a better response in the cancer treatment. Many women feel that doctors do not

listen to them and are only looking at them as cancer patients, but they are all so much more than that and doctors need to be able to be better trained in handling these situations because it will make the quality of care vastly better.

Works Cited

- Abel, E. K., & Subramanian, S. K. (2008). *After the Cure : The Untold Stories of Breast Cancer Survivors*. New York: NYU Press. Retrieved from <https://sacredheart.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=1020872&site=eds-live&scope=site>
- Agrawal, S. (2014). Late effects of cancer treatment in breast cancer survivors. *South Asian Journal of Cancer*, 3(2), 112–115. <https://doi.org/10.4103/2278-330X.130445>
- Breast Cancer. (2018, January 4). Retrieved October 28, 2018, from <https://www.cancer.org/cancer/breast-cancer.html>
- Breast cancer - Diagnosis and treatment - Mayo Clinic. (2018, March 6). Retrieved October 3, 2018, from <https://www.mayoclinic.org/diseases-conditions/breast-cancer/diagnosis-treatment/drc-20352475>
- Breast cancer - Symptoms and causes. (2018, March 6). Retrieved October 3, 2018, from <http://www.mayoclinic.org/diseases-conditions/breast-cancer/symptoms-causes/syc-20352470>
- Cvetković, J., & Nenadović, M. (2016). Depression in breast cancer patients. *Psychiatry Research*, 240, 343–347. <https://doi.org/10.1016/j.psychres.2016.04.048>
- Jones, S., LaCroix, A., Li, W., Zaslavsky, O., Wassertheil-Smoller, S., Weitlauf, J., ... Danhauer, S. C. (2015). Depression and quality of life before and after breast cancer diagnosis in older women from the Women's Health Initiative. *Journal of Cancer Survivorship*, 9(4), 620–629. <https://doi.org/10.1007/s11764-015-0438-y>
- Kim, M.-S., Kim, S. Y., Kim, J.-H., Park, B., & Choi, H. G. (2017). Depression in breast cancer patients who have undergone mastectomy: A national cohort study. *PLOS ONE*, 12(4), e0175395. <https://doi.org/10.1371/journal.pone.0175395>

NIMH » Depression. (n.d.). Retrieved October 3, 2018, from

<https://www.nimh.nih.gov/health/topics/depression/index.shtml?>

Reich, M., Lesur, A., & Perdrizet-Chevallier, C. (2008). Depression, quality of life and breast cancer: a review of the literature. *Breast Cancer Research And Treatment*, 110(1), 9–17.